# A Case: Challenges Of Maternal Care In Haiti: Amidst the Health Policies, Systems and Rural Realities

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***Objectives:*** *This narrative case study illustrates typical challenges in maternal care in rural Haiti, where access to the health service is considerably affected due to geographic, financial and cultural constraints, as well as fragile health systems and ambitious policies. The case aims to provide lessons and opportunities for discussion.*

***Background:*** *In Haiti, 79% of the population lives in poverty. The country is under-resourced and offers 6.3 health professionals per 10,000 people. The Haitian Ministry of Health regulates institutional delivery. Normal delivery can take place in health centers in communes or departmental hospitals, while abnormal delivery is to be provided for at departmental hospitals. In the South-East Department, with an 85% rural population, only 12.8% of pregnant women delivered at health facilities in 2016.*

***Case narrative:*** *In a remote village in the commune of Belle Anse, Marie was in labor with a traditional birth attendant. Because of increased bleeding, it was decided to transfer her to the local health center. Upon gathering fares, Marie and her husband travelled a rough road on a moto-taxi for one and a half hours. The health center staff immediately administered intravenous fluid. The physician suspected placenta previa and placental abruption, which required a C-section. The health center provided only basic emergency obstetric care, and so it was decided that Marie should be transferred to the departmental hospital, another hour and a half away by boat and by car. Since no ambulances were available in the area, they struggled to find the means. The hospital was too far to reach.*

***Discussion:*** *Three questions are addressed: "What does this narrative imply?", "What are the Haiti Government's prospects?" and "What are the fundamental issues and a potential way forward?"*

***Keywords:*** *health policy, health system, access, childbirth, Haiti*

## Background

Haiti sits on the western third of the isle of Hispaniola in the Caribbean; the Dominican Republic makes up the other two thirds. Haiti occupies an area of 27,750 km$^2$ in which 10.9 million Haitians live [1]. The population is 95% black and 5% mulatto or white [2]. While all Haitians are native speakers of the creole language, 42% educated people also speak French [3]. The majority are Christians, with 80% being Catholics [2]. Although Voodooism, with its origin in West Africa, is widely believed and practiced, the number of believers is difficult to estimate because of the syncretism with Catholicism.

Haiti was the first enslaved nation to win independence, in 1804, yet the country is underdeveloped (Table 1). Haiti was ranked 163 of 188 countries on the Human Development Index in 2015 [9]. The life expectancy at birth increased steadily to 63.0 years in 2015, but was far from the world average of 71.9 years [4]. In rural Haiti, while 59.5% of the population now have access to improved water sources, only 24.4% have access to improved sanitation [7]. Haitians live healthier than before but there is plenty of room for improvement (Table 2).

Today Haiti is the poorest country in the western hemisphere with 79.0% of the population living in poverty [18]. Economic development is seriously affected by weak governance. In search of a better life,

many, including health professionals, have left the country.

**Table 1. Development related statistics of Haiti**

| Indicator | Data | Details | Year |
|---|---|---|---|
| Life expectancy at birth, years [4-6] | 63.0 | Male 60.9<br>Female 65.2 | 2015 |
| Fertility rate, births per woman [7] | 3.0 | Urban 2.1<br>Rural 3.9 | 2017 |
| Population growth, annual % [8] | 1.26 | - | 2016 |
| Human Development Index [9] | 0.483 | 163rd/188 countries | 2015 |
| The literacy rate > 15 years of age, % [2] | 60.7 | Male 64.3<br>Female 57.3 | 2015 |
| Population with improved water source, % [7] | 73.4 | Urban 95.0<br>Rural 59.5 | 2017 |
| Population with improved sanitation, % [7] | 33.3 | Urban 46.8<br>Rural 24.4 | 2017 |
| Population with access to electricity, % [10-12] | 37.9 | Urban 53.3<br>Rural 17.2 | 2014 |
| Paved roadways, km [2] | 768 | 18% of all roads | 2009 |
| GDP per capita, USD, constant LCU [13] | 1,461 | - | 2016 |
| International trade, billion USD [14] | Import 3.46<br>Export 1.00 | - | 2016 |
| Personal remittances, billion USD [15-16] | 2.36 | 29.4% of GDP | 2016 |
| GDP growth, annual % [17] | 1.44 | - | 2016 |
| Unemployment rate, % [2] | 40.6 | - | 2010 |
| Population living in poverty, ≤5.50 USD/day, %, 2011 PPP [18] | 79.0 | - | 2012 |
| Population living in extreme poverty, ≤1.90 USD/day, %, 2011 PPP [19] | 24.9 | - | 2012 |
| Proportion of income share held by the richest 20% and lowest 20% [20-21] | Highest 46.9<br>Lowest 5.6 | - | 2012 |
| GINI index [22] | 40.9 | - | 2012 |
| Corruption perceptions index [23] | 22 | 157th/180 countries | 2017 |

**Table 2. Changes of health indicators in Haiti**

| Indicator | Data (year) |
|---|---|
| Maternal mortality ratio, per 100,000 live births [24] | 625 (1990), 359 (2015) |
| Under-five mortality rate, per 1,000 live births [25] | 145 (1990), 69 (2015) |
| Infant mortality rate, per 1,000 live births [26] | 100 (1990), 52 (2015) |

| | |
|---|---|
| Neonatal mortality rate, per 1,000 live births [27] | 39 (1990), 25 (2015) |
| Immunization, DPT, of children ages 12-23 months, % [28] | 41 (1990), 60 (2015) |
| Underweight, weight for age, of children < 5 years, % [29] | 23.7 (1990), 11.6 (2012) |
| Stunting, height for age, of children < 5 years, % [30] | 40.1 (1990), 21.9 (2012) |
| Cause of death, by communicable diseases and maternal, prenatal and nutrition conditions, % [31] | 50.7 (2000), 31.0 (2012) |
| Births attended by skilled health staff, % [32] | 20.6 (1995), 48.6 (2012) |

## Health Systems in Haiti

The Haitian Ministry of Health (MoH) has 1,048 health facilities throughout the country, consisting of 430 dispensaries, 493 health centers and 126 hospitals [33]. A total of 7,375 beds in these facilities equates to 6.9 beds per 10,000 people [34]. A total of 7,021 physicians, nurses and midwives represents 6.3 health professionals per 10,000 people. Notably, 80% of the health professionals work in urban areas where 50% of the population is concentrated [34].

After the devastating earthquake in 2010, which killed over 300,000 people and destroyed over 50 health facilities, Haiti, aided by the international community, launched strategic policies and plans envisioning development over the following decades. The MoH materialized them as the National Health Policy for 2012-2037, the Health Action Plan for 2012-2022 and the Essential Health Package [35-37]. Numerous entities supported the MoH in reconstructing, financing and managing the health systems. In 2010-2011, international organizations constituted 86% of the total health expenditure; this proportion however declined to 57% in 2013-2014 [38].

Haiti

Financing the health system is a major challenge. For the fiscal year 2015-2016, the Haitian government allocated 5.4% of the national budget or 110 million USD to the MoH. However, 90% of the MoH budget was spent on human resources. The remaining 10% or 11 million USD were available to serve nearly 11 million people; that is, 1 USD per person. The government's insufficient health budget augmented the proportion of out-of-pocket expenses by the population to 30% of the total health expenditure in 2014 [38]. Consequently, 73% of Haitians find lack of money as an obstacle to seeking healthcare [7]. Health insurance schemes are too expensive and hence are inaccessible for the majority.

## The South-East Department

The South-East Department adjoins the West Department where the country's capital Port-au-Prince is located, yet 85% of the 623,000 inhabitants live in rural areas [34]. The elongated land of 2,023 km² stretches east and west, and is elevated sharply from the southern coasts to the north (Figure 1). The mountainous topography makes access considerably difficult.

South-East Department

Figure 1. Location and topography of Belle Anse and the South-East Department [39]

The public health service is provided by one secondary care departmental hospital and 55 primary care facilities, comprising 13 health centers with beds, nine health centers without beds and 33 dispensaries including health fixed points in remote areas [40]. The health service in the South-East Department together offers 3.4 beds and 3.1 health professionals per 10,000 people [40].

The MoH regulates institutional delivery in such a way that normal delivery is provided for at the hospitals and the health centers categorized as Basic Emergency Obstetric Care facilities, and abnormal delivery at the departmental hospitals, to provide Comprehensive Emergency Obstetric Care. In 2016, of all pregnant women registered at prenatal checkups in the South-East Department, 12.8% delivered at health facilities, 13.9% delivered at non-institutional settings and the remaining 73.4% did not report but most likely delivered in villages [34].

**Belle Anse**

The commune of Belle Anse, with a population of 85,000, is located 76 km to the east of Jacmel, the capital of the South-East Department. Because of the abruptly elevated coastlines, the coastal centric town, also called Belle Anse, is more accessible by boat than by car. While public transport is not available in the area, moto-taxis run between Belle Anse and most of the larger villages in the mountains where the majority dwell.

Health services in the commune are provided at eight facilities: one health center in Belle Anse, one dispensary and six health fixed points. The health center is staffed by one physician, two nurses and four auxiliary nurses and equipped with three beds to provide 24-hour care. The dispensary and fixed points are each staffed with a nurse and are open daytime on weekdays to provide basic care.

Despite the policy and efforts to augment institutional delivery, the number of deliveries per year at

the health center from 2011 to 2015 remained between 26 and 38, whereas the number of reported deliveries in villages per year fluctuated between 14 and 436 (Figure 2).

Pregnant women with signs of abnormalities must be transferred to Jacmel, but ambulance services do not exist. Due to the severely limited road access, financial strain and local customs, the majority give birth at home or at a village's sacred birth-house with a '*matron'* or *'matwon*', a traditional birth attendant believed to have spiritual power in voodoo culture.

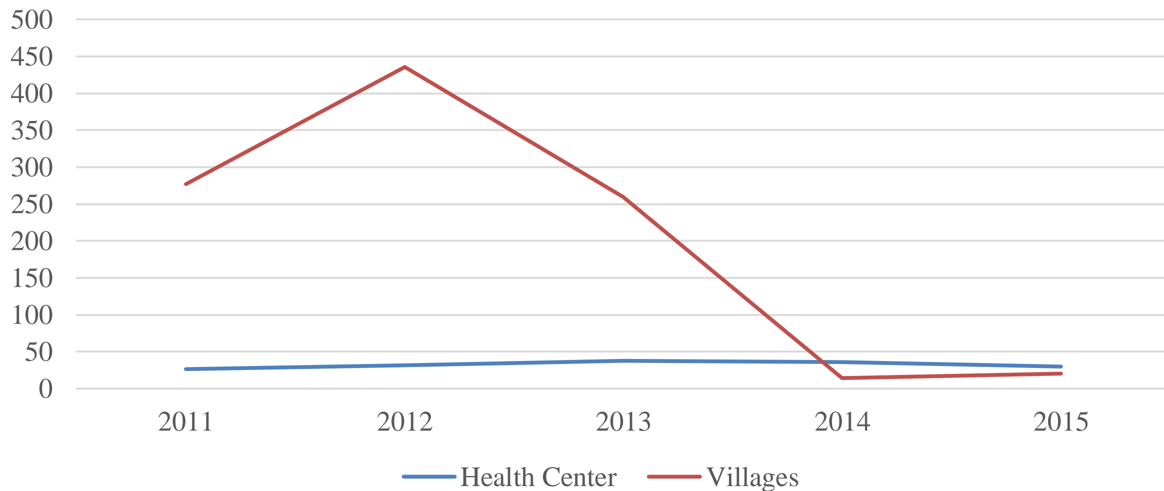


Figure 2. The number of deliveries in the Health Center and reports from villages in Belle Anse between 2011 and 2015 (the reports from villages do not present the actual birth numbers, rather they indicate the degree of communication between traditional birth attendants and the Health Center. Source: Ministry of Health, Haiti.)

**Case Narrative**

"My wife is in serious trouble!!"

It was Marie's husband who rushed into the village leader's house, desperately calling for help. She was losing her strength after three hours of labor and increased bleeding.

Marie, 22-years old, and her husband, lived in a small wooden hut in a remote village with their two children of one and three years old.

Village life was basic: households had no access to electricity or potable water, fed themselves with produce from their small fields and lived on occasional income from selling agricultural products. Couples established their own households after the birth of their first children. Usually they were not legally married but united for life. Wives took care of their houses, children and economy. It was the wives' role to sell and buy products, materials and services. This was also the case for Marie's family.

When Marie started feeling morning sickness for her third child early in the pregnancy, she visited the health fixed point in a neighboring village an hour away on foot. At the health fixed point, a nurse provided the basic care such as perinatal checks, family planning, medication for common symptoms and health education. The nurse confirmed that Marie was pregnant, having noted the signs and the days since the last period and read the results of a pregnancy test. She gave her a few tablets and advice to alleviate her morning sickness.

Marie went back home and did not return to the fixed point for a periodic check, because she was charged 25 gourds (0.45 USD) for the consultation and another 25 gourds for the tablets. Further, Marie knew, more or less, what to expect from her previous pregnancies and had had a positive prediction from her *matron*, a traditional spiritual birth attendant, who had also delivered her two children.

Her *matron* had been trained by the local Health Center several years previously with other *matrons* in the area. In workshops, they learned the basic signs, symptoms and procedures including hygiene practices. But following the MoH's policy changes, the *matrons* were guided to refer pregnant women to the health center instead of attending them in villages. To encourage referral, they were offered cash for moto-taxi fares and compensation corresponding to the amount they would charge for a child delivery in villages.

The funding to support institutional delivery was available for some time after the 2010 earthquake, when several international organizations were present in the commune of Belle Anse. Although this incentive hardly raised the number of institutional deliveries, the Health Center at least reestablished communication with the *matrons* through regular meetings. However, all projects ended by 2015 and the underfunded MoH could no longer finance the policy.

When Marie was in labor with her third child, she was at the village's sacred birth-house with her *matron*. Her *matron* was male, which was common in this area. The sex of *matron* was not important but the magnitude of their spiritual power was: it would influence that of the newborn. For this reason, some *matrons* also attended animal births. Other aspects of the birth were of less importance. Despite the training in the past, the hygiene of the birth-house was undesirable for labor and delivery. It was cleaned sometimes but never sterilized. The gloves had run out long ago.

Although some *matrons* charged up to 1,000 gourds (18 USD) for a delivery, Marie's *matron* did not charge her because she was kin.

Realizing the abnormality in Marie's labor, the *matron* decided to seek the health center's help. This is when her husband rushed into the village leader's house.

For a return trip to the health center by moto-taxi, they needed 2,000 gourds (36 USD). In the impoverished village, gathering 2,000 gourds was not easy. But fortunately, some had cash to lend after a good harvest. The nurse at the fixed point also assisted to raise the money and find a moto-taxi, since this was a nurse's role, agreed between the community and the health services. For Marie's household, such debt would be difficult to pay back and her absence from the house would affect everyday life, especially the children. But they had no choice. Marie's life was in danger.

After an hour, they managed to secure the fares and sent a moto-taxi, a small 50cc motorbike, to the sacred birth-house. Marie strived to get on the backseat, clinging to her husband. There she sat between the moto-taxi driver and her husband securely. Then, the three left the village. It was an hour-and-a-half ride to the health center. The roads were not only unpaved but rocky and downhill. At dusk, visibility was increasingly deteriorating. Fortunately, it was the dry season and there were no rivers to cross.

The driver concentrated to travel as fast but as carefully as he could. Her husband at times asked Marie if she was all right. At other times he shouted to encourage her. Despite the tough ride, Marie managed to find the strength to hold on and they finally reached the health center. She was extremely exhausted.

At the health center, the physician and nurses attended her immediately. Because of continuous bleeding, Marie's blood pressure was as low as 40 mmHg and she was administered intravenous fluid.

They could hardly hear the fetus's pulse using a stethoscope, but they had no sophisticated devices such as ultrasonograph or fetal cardiograph. In any case, such electric medical equipment would be useless for the health center. The electricity was available only during the day when the sunlight was strong enough to activate the solar energy panel. At night they used torches and the lights of cellphones to treat and operate on the patients.

In Marie's case, the physician suspected placenta previa and placental abruption from experience, but had no means to confirm this diagnosis. Even if they had diagnosed the case, they could not have assisted an abnormal birth.

They knew Marie needed a C-section urgently, requiring transport to the departmental hospital in Jacmel. But because the health center had no ambulance or budget to transfer patients, it was again time to raise money and find the means to travel to Jacmel.

Marie and her husband were in absolute shock, because the health center could not help her after the long journey from the village. Now, they felt even more desperate, having heard that Marie needed to be taken to Jacmel, a town they had never been to before, and that they had to pay more and travel further.

In such circumstances, where the villagers have little idea and experience (which is often the case) the health center staff arrange the transport. They ask the mayor, the priest and others for donations, as well as fishermen to provide a taxi service to Marigot and a car taxi driver to wait at the port in Marigot to transport the patient urgently to Jacmel.

It takes 50 minutes and costs 5,000 gourds (90 USD) to travel from Belle Anse to Marigot by motorboat, the fastest option available when the sea is calm. This is followed by a 40-minute journey from Marigot to Jacmel by car taxi which costs up to 750 gourds (13 USD).

It was tremendously difficult to organize all this at night. The health center was supposed to charge Marie 25 gourds for the consultation, but knowing the reality, they could not ask for it.

Two hours had passed since Marie had arrived at the health center. She was losing consciousness, as the bleeding continued. Yet, she was to face another rough journey of one and a half hours, if and when the transport was secured. But they were struggling to raise the desperately needed money.

At times, even the departmental hospital is unable to perform C-sections because of the absence of anesthetists or other medical staff. In this case, patients are redirected to a tertiary care hospital in Port-au-Prince, located at least two and a half hours from Jacmel by car. Since the departmental hospital also lacks an ambulance, the transfer needs to be arranged individually, at a cost of an additional 4,500 gourds (80 USD).

Although other neighboring departmental hospitals occasionally attended to emergency cases from the South-East Department, expectations were rarely met since all Departmental Hospitals were short of medical professionals. A few private hospitals in Jacmel attended to emergencies, but they were open only to those who could afford much higher fees.

On the night when Marie was to be transferred, the sea was calm and the Departmental Hospital in Jacmel was prepared to receive her.

Another half an hour passed. Despite all the efforts and hopes, Marie passed away.

**Discussion**

This narrative presents a typical child delivery issue found in rural Haiti. For rural populations and frontline health professionals, their circumstances are unchangeable under the current health systems and policies. Voices of the unfortunate, thus, remain unheard. To put into perspective, we address three questions: "What does this narrative imply?", "What are the Haiti Government's prospects?" and "What are the fundamental issues and a potential way forward?" (these questions may also be used as leading questions in classroom discussions).

**What does this narrative imply?**

From a public health perspective, geographic access to health service is already limited for remote villages but is made even more difficult by the policy to regulate normal deliveries in health centers or departmental hospitals and abnormal deliveries in departmental hospitals. In 2017, institutional delivery rates in Haiti were merely 39.4%: 59.8% in urban areas and 28.5% in rural areas [7]. As a consequence, the maternal mortality rate in Haiti remains critical, at 529 per 100,000 live births, far higher than the world average, of 216 [7,41]. The neonatal mortality rate in Haiti is also considerably high, 32 per 1,000 live births, in comparison to the world average, 18 [42].

For a child, loss of a parent poses a serious setback and makes them vulnerable to poverty. Children of single parents tend to have less access to schooling and resources [43,44]. This disadvantage affects development of their life skills, knowledge and opportunities, which are indispensable for socioeconomic improvement. Marie's children may be supported by their relatives and neighbors in one way or another; however, they may not have resources to go to school or a health center.

**What are the Haiti Government's prospects?**

The Haitian Ministry of Health recognizes the importance of health service provision to all Haitians. Some of the identified priorities are construction and reactivation of health facilities, increase of human and financial resources, and strengthening of primary health care. In 2013, the country's first midwifery school was inaugurated and some graduates began working in public health services. The government's plan is to continue with implementation of the current health policy and improve the health services including institutional delivery and national ambulance services.

While such improvements are much desired, the reality is different. The ratio of health professionals (physicians, midwives and nurses) per 10,000 inhabitants is 6.3, less than a third of the target, 25. Ambulance services are seen only in certain areas of two departments, while the remaining eight departments wait. Certainly, roads need to be improved for ambulances to travel throughout the country. Considering the efforts and resources required, dramatic changes in health systems and services in Haiti are unlikely to happen any time soon.

**What are the fundamental issues and a potential way forward?**

Fundamental issues in the case of Haiti are gaps between the health policy, health systems and rural realities. Institutional delivery is a general global recommendation to provide pregnant women with adequate care by qualified professionals in appropriately equipped facilities. The intention to offer the best possible service is important. It is indispensable, however, to consider the underlying conditions for this approach; that is, adequate staffing and equipped facilities, as well as geographical and financial accessibility. Rural populations in Haiti would rarely seek unaffordable health services in distant towns. It is debatable whether Haiti's health system is prepared to implement an institutional delivery policy.

A suggested alternative approach is to optimize locally available resources, by training nurses and traditional birth attendants in basic deliveries, as well as in prenatal and postnatal care. A supportive environment should also be established. For example, regular meetings and training to continually develop capacity and a communication network, and a hotline with midwives, ob-gyns and physicians to seek specific and urgent advice.

Health system strengthening and reform are gradual processes. The Haiti Government should continue to augment human and financial resources and to improve infrastructure, services and coverage. In the meantime, a temporary policy to enable safe child delivery should be formulated and implemented in collaboration with frontline health professionals and rural populations.

**Conflicts of interest**

The authors have no conflicts of interests.

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